

Attorney Docket No.: 266-165 (UMD-0032)
Inventors: Madura, Kiran
Serial No.: 09/918,036
Filing Date: July 30, 2001
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REMARKS

Applicant notes that the Office Action Summary indicates that claims 6, 9, 10, and 12 are pending, when in fact claims 6, 7, 9, 10, and 12 are pending in the instant application. Claims 6, 7, 9, 10, and 12 have been rejected. Claims 6 and 10 have been amended. No new matter has been added by this amendment. Reconsideration is respectfully requested in light of the following remarks.

I. Rejections Under 35 U.S.C. §112

Claims 6, 7, 9, 10, and 12 have been rejected under U.S.C. §112, first paragraph, for lacking a sufficient written description of the term "functional 26S proteasome." The Examiner suggests that this term is not present in the disclosure and therefore constitutes new matter. It is suggested that the structure of the 26S proteasome is complex and that mutations in cim5, prel and pre2 are not representative of all possible mutations in components of the S26 proteasome that make it nonfunctional. The Examiner suggests that the relation of other mutations to degradation of Rad23-HA or any other recited sequences of Ubl domains are not disclosed. Further, it is suggested that because there are too many examples when active growth is accompanied by lack of degradation of Ubl containing proteins, that active growth cannot be correlated with rapid degradation of Ubl containing proteins. Applicant respectfully disagrees.

To satisfy the written description requirement, Applicant must convey with reasonable clarity to those skilled in the art

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that, as of the filing date sought, he or she was in possession of the invention, *i.e.*, whatever is now claimed. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). MPEP 2163. The written description requirement does not require that Applicant provide analysis of every possible non-functional 26S proteasome or cell type in order to establish a credible correlation between a catalytically active 26S proteasome and degradation of an UbL containing protein for assessing whether a cell is quiescent or actively growing. Applicant has provided representative examples of 26S proteasome mutants (*i.e.*, *cim5-1* and *pre1-1 pre2-2*), which are known to disrupt the catalytic activity of 26S proteasome, and as disclosed in the instant specification also fail to degrade an UbL containing protein (see the paragraph bridging pages 36 and 37). Concurrently, Applicant has demonstrated that UbL^{R23} (SEQ ID NO:3), UbL^{DSK} (SEQ ID NO:2), UbL^{HRA} (SEQ ID NO:5), and UbL^{HRB} (SEQ ID NO:4) interact with various proteins of a catalytically active 26S proteasome, *e.g.*, *cim5* and *pre1* from wild-type cells (see the paragraph bridging pages 41 and 42). From these analyses, Applicant has established the correlation that "a common biochemical property of a UbL is its interaction with catalytically active 26S proteasome." See page 42, lines 4-12, of the specification. Further, Applicant has demonstrated that UbL containing proteins are stable in stationary-phase cells but exceedingly unstable during active growth. See the paragraph bridging pages 34 and 35, and Figures 7 and 9. Accordingly, in an effort to facilitate the prosecution of the instant invention, Applicant has amended the claims to recite a

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catalytically active 26S proteasome to clarify the nature of the 26S proteasome in the cells being assessed for quiescent or active growth. Support for this amendment is found at page 42, lines 4-12. From the teachings provided in the instant specification, the skilled artisan would recognize in Applicant's disclosure a description of the invention as now claimed. 541 F.2d at 265, 191 USPQ at 98. See also Ex parte Sorenson, 3 USPQ2d 1462, 1463 (Bd. Pat. App. & Inter. 1987). Thus, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claims 6-7, 9-10, and 12 have been rejected under 35 U.S.C. §112, first paragraph, because the specification, while being enabling for degradation of Rad23¹⁻³⁶⁹, Rad23-HA and Ubl^{R23}-lacZ with 0-30 min. after labeling when the labeling is performed in some exponentially growth yeast transformants (Figures 7 and 9), does not reasonably provide enablement for assessing whether a cell with a functional 26S proteasome is quiescent or actively growing. It is acknowledged that the art of construction of DNA molecules encoding fusion proteins is highly developed and skill of the artisan is high; however, it is suggested that because Applicant has not described a functional 26S proteasome or a cell with a functional 26S proteasome, one skilled in the art would not know which cell to choose. It is further suggested that a determination of whether a cell has the functional 26S proteasome is left to be determined by the skilled artisan. Applicant respectfully disagrees.

As discussed above, Applicant has clearly established a correlation between cell growth and degradation of an Ubl

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containing protein. Applicant has also clarified the claims to indicate that the cell being assessed has a catalytically active 26S proteasome. Further, Applicant has disclosed illustrative examples of cells with a catalytically active 26S proteasome (e.g., the wild-type cells of the paragraph bridging pages 34 and 35) as well as cells lacking a catalytically active 26S proteasome (e.g., *cim5-1* and *pre1-1 pre2-2* cells of the paragraph bridging pages 36 and 37). Given this guidance, one of skill would readily appreciate other types of cells which can be assessed in accordance with the instant method. Accordingly, Applicant respectfully believes that at least one method for making and using the claimed invention has been disclosed which bears a reasonable correlation to the entire scope of the claim and therefore the enablement requirement has been satisfied. In *re Fisher*, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). MPEP 2164.01(b). Therefore, it is respectfully requested that this rejection be reconsidered and withdrawn.

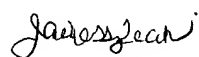
II. Conclusion

The Applicants believe that the foregoing comprises a full and complete response to the Office Action of record.

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Accordingly, favorable reconsideration and subsequent allowance of the pending claims is earnestly solicited.

Respectfully submitted,



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Date: September 14, 2005

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